

## Digitalization in local governance

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**Abstract:** This study examines the role of digitalization in local governance, focusing on its adoption, impact, challenges, and facilitators. Using a mixed-method approach, the research reveals that IT-driven strategies significantly enhance efficiency and effectiveness in public administration. Key factors for successful implementation include leadership, institutional capacity, stakeholder engagement, and resource allocation. Despite the benefits, challenges such as data privacy, technical capacity, and resistance to change persist. The study recommends investing in leadership development, enhancing institutional capacity, promoting stakeholder engagement, bridging the digital divide, and fostering collaboration to leverage IT solutions for sustainable governance.

Keywords: Digitalization, Local Governance, IT-Driven Strategies

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## INTRODUCTION

Technological flourishing gave birth to human convenience. It made everything fast-paced. Everything now is digitalized due to the fact that everything that surrounds human processes is identified by the digital age (Suryento, 2022). Hence, it is necessary for organizations to digitalize and automate all their core processes and other necessary records to keep up with the trend but surely, it is not just a trend—a tool also to save a lot of assets (Rachinger, 2018). Recent events have accelerated the trend to digitize processes and transactions across sectors, but more importantly, they have helped to highlight critical issues that companies have been dealing with for quite some time. However, there are many operational and legal objectives that go hand in hand with digitalization and automation which explains the reason why up until now, many are still doubtful or skeptical as to how it really works (Pereira, 2022; Vaska, 2021; Kraus, 2021).

Globally, digitalization and automation of organizations remains a hot topic for many researchers, scientists, and world leaders. Existing studies confirmed that the world is always changing, whether it's how we develop technologically, our political atmosphere, or the real temperature of our planet (Hanna, 2017). And this evolution highlights our fundamental human ability to adapt to change. To say that the internet has transformed our lives forever is an understatement. And, as a result of that technological leap ahead, we are continually adjusting and unfolding new opportunities to become more linked (Verhoef, 2021; Rha, 2022).

By activating their dynamic powers, digitalization has the ability to help businesses respond effectively to public emergencies (Coryoden, 2016). The use of digital technology such as information, computer, communication, and connectivity technologies to drive organizational transformation is referred to as digitalization (Dillera, 2022). Much study has revealed that the use of digital technology plays an essential role in crisis response in the context of the COVID-19 pandemic. The Chinese government has supported the use of big data, AI, cloud computing, and other digital technologies in pandemic monitoring, viral

tracing, disease treatment, and work resumption. Big data technologies, for example, may provide tremendous assistance for real-time pandemic monitoring and tracking. Employees may operate remotely and in a flexible manner thanks to the use of online office software (Istamboel, 2018).

Programmable, addressable, sensible, communicable, remembered, traceable, and associable are all characteristics of digital technology. Thus, digitalization or digital transformation may assist organizations in gaining and maintaining competitive advantages by increasing organizational flexibility and resilience, as well as expanding dynamic capacities (Bong, 2021; Kunt, 2021; Sullivan, 2021). It has been argued that digitalization benefits organizations' dynamic capacities in particular. For starters, digitalization enables businesses to detect environmental changes (Marek, 2021). Because of the high volume, velocity, diversity, and worth of digital resources, enterprises may acquire or retrieve information resources in the external world at a cheap cost (Belgica, 2022). Furthermore, the use of big data analytic systems and IoT technologies allows businesses to filter vital information using high-speed processing, allowing them to feel and forecast environmental changes to some extent (Bertrand, 2019).

Additionally, digitalization allows firms to restructure their resources in response to emergencies (Gatchalian, 2020). Digitalization increases the breadth, size, and flexibility of organizations' available resources. IT technologies, for example, lower the cost of coordinating operations inside organizations and improve resource flexibility. Furthermore, digital technologies have fundamentally transformed company processes, goods, and services, as well as inter-firm connections, significantly lowering the complexity and expense of resource transfer (Andersson, 2022; Lindo, 2022; Mahana, 2021; Tives, 2018).

In the Philippines, now more than ever, government organizations and other related agencies are already highly encouraged to digitize and automate their core processes (Ranchordas, 2020). The CoVid-19 pandemic has underlined the critical role that digital ecosystem may play in assisting a country in quickly providing services and relief to its people, such as healthcare, education, and social support (Wright, 2022). Countries that have a "stack" of digital IDs, digital payments, and data sharing platforms in place were better equipped to respond to the epidemic and ensure service continuity by migrating to online channels. The Philippines is an excellent example of a government tackling digital ecosystem gaps by improving fundamental ID, digital data governance, and digital payments infrastructure (Marnhouj, 2022; Philippine Digital Justice Initiative, 2021). The Philippine Statistics Authority (PSA), one of the few countries without a foundational ID system beyond its civil registry, began rolling out the Philippine Identification System (PhilSys) in 2019 (Lugtu, 2022). After experiencing the difficulties of delivering social assistance without a foundational ID during the COVID-19 response, PSA identified digital SP delivery as a priority area and is now collaborating with the Department of Social Welfare and Development (DSWD) to use PhilSys for the digital transformation of the country's major social assistance programs (DICT, 2020; Business World, 2022; Lalu, 2022; Valdez, 2022).

On the other hand, for businesses, the Securities and Exchange Commission (SEC) has accelerated its digital reforms, such as the Electronic Simplified Processing of Application for Registration of Company (eSPARC), which has so far processed over 26,000 business registration applications online in just one day in as little as two minutes (Trecene, 2021). In addition, government financial institutions like as the LandBank and DBP have accelerated the use of financial technology (Fintech) solutions to better support small farmers and fishermen while extending retail banking services, in keeping with President Duterte's goal of financial inclusion (Belgica, 2022). Their digital transformation goals include automating their processes for giving financial aid and enhancing information systems to give them with

accurate and trustworthy data for better program implementation (CNN, 2022; Relief Web, 2022; Francis, 2018; Siar, 2015; Garcia, 2020; World Bank, 2020).

### *Statement of the problem*

Generally, this study aims to assess how can the Philippine government adapt to digitalization and automation of its core processes.

Specifically, it is directed to answer the following questions.

- 1) What is the level efficiency of the current system used in the process?
- 2) What are the gaps and challenges that hinders the digitalization and automation?
- 3) What interventions can be done to address the gaps?

## LITERATURE REVIEW

The study of Nexus (2020) revealed that in 2018, nearly US\$1.3 trillion was invested in digital transformation, according to the most recent Harvard Business Review report. Nonetheless, a considerable portion of this expenditure is squandered on attempts by organizations that fail due to a lack of readiness for change. It is not only an issue of capital investment, but also of formulating plans, implementing them, and handling the difficulties and possibilities that come with it (Nexus, 2020). Experience and skills in digital transformation are increasingly required for practically all firms' strategic plans. In the industry, the two pillars of digital transformation are innovation and disruption (Nexus, 2020). Companies must be aware of their industry's changing landscape and ensure that they have the required talent to carry out new business models, as well as train and retain existing talent. In today's business landscape, disruptive forces abound. For these reasons, maintaining the influence of such a transition typically necessitates a significant repair in thinking and behavior (Nexus, 2020).

In addition, Nadkarni (2020) revealed that in recent years, scholarly interest has steadily increased, resulting in a large increase in the number of articles addressing various technological and organizational elements of digital transformation. In order to expedite entrepreneurial transformation, corporate entrepreneurship promotes closer collaboration and regular interaction between incumbents and start-ups (Nadkarni, 2020). Indeed, start-ups are frequently regarded as the forerunners of digital transformation. They are acclaimed for their speedier innovation skills, higher levels of agility, a risk-taking culture, and highly digital procedures and workflows. In comparison, incumbents have more experience, finance access, established brand trust, and a large consumer base (Nadkarni, 2020). As a result, collaboration between start-ups and incumbents may benefit both parties. Furthermore, non-tech incumbents may consider collaborating with pure digital businesses that are past the startup stage but are essential knowledge carriers in digital topics (Nadkarni, 2020).

A Masters dissertation completed at the University of KwaZulu Natal, Toteng et al paper's (2013) is based on an investigation into the use of electronic databases by undergraduate law students at the University of Botswana Library, which was conducted at the University of KwaZulu Natal. There were several goals for this research, including determining whether or not law students utilized electronic databases, which databases they utilized, and how frequently they utilized them, as well as identifying problems students encountered when using the databases and how students became aware of the databases. Three hundred and sixty-two undergraduate law students were included in the study. The information was gathered through the use of a questionnaire, and the background information from the two law librarians was obtained through the use of an interview schedule. It was discovered by researchers that undergraduate law students made extensive use of the electronic databases that were made available through the library's subscription. The

databases that were most frequently used by the students were the OPAC, Juta Publications, and EBSCOHost databases. A number of issues that the students encountered while utilizing the databases were identified and addressed. (Toteng, Hoskins, & Bell, 2013)

A study conducted by Adesola (2021) examined the use of electronic databases by academic staff at Bowen University in Nigeria. The data was analyzed using descriptive statistics, which included percentages and frequency counts, among other things. The simple random sampling technique was used to select a sample of 75 academic staff members from a total population of 500 academic staff members. The questionnaire used in this study was the primary instrument for data collection. In this case, the questionnaire was a closed-ended or structured questionnaire that was divided into two sections. Section A contains the biographical information of the respondents, whereas Section B contains the structured items necessary to achieve the research objectives. The study posed and answered five research questions, each of which was developed separately. The findings indicate that the vast majority of academic staff are aware of the existence of electronic databases and make use of them to improve teaching delivery and research output. Inadequate time and an overwhelming amount of work are among the difficulties encountered. Finally, the study recommends a significant reduction in workload, as well as an increase in bandwidth and hotspots, as well as the establishment of customer-friendly policies in the library. (Adesola, 2021)

According to Mc Elhinney et al (2016), there is increasing pressure on health and social care (HSC) professionals to make decisions based on the most up-to-date evidence to help them in their daily work. They must be proficient in conducting literature searches in order to accomplish this. The use of a robust approach to literature review that produces optimal results is highly desirable in a time and resource constrained environment. An investigation into the processes of conducting a structured literature search as well as evaluating the effectiveness of five commonly used health and social care databases is presented in this paper. It was decided to ask this review question using the qualitative version of PICO (Population, Interest, Context, and Outcome), which was as follows: ‘How do health and social care professionals (P) make decisions in relation to pregnant women (C) when there is a safeguarding concern (O) regarding an unborn child?’ Among the databases under consideration were ASSIA, CINAHL Plus, Ovid MEDLINE, PsycINFO, and Social Care Online, among others. The searches were carried out between October 2014 and April 2015. Prior to publication, a rapid update was completed in March 2016 to ensure that the information was current. Researchers used a screening tool developed by the research team to determine whether or not papers were appropriate for inclusion in the study. Papers had to report empirical research, have been published in peer-reviewed journals as an indicator of quality, and be available in the English language. They also had to be written in English. (Mc Elhinney, Taylor, Sinclair, & Holman, 2016)

In order to be considered for full-text publication, papers had to contain data gathered from or about decision-making regarding safeguarding in pregnancy made by midwives, nurses, social workers, and professional managers. The quality of the chosen databases was determined by their sensitivity (ability to retrieve a sufficient number of papers), precision (ability to prevent the retrieval of an excessive number of irrelevant papers), and Numbers Needed to Read (NNR) – the number of papers that needed to be read in order to find one paper to include. A total of 866 papers were identified, and their titles and abstracts were reviewed by the researcher, with full-text papers being reviewed by the research team after they had been reviewed by the researcher. Both of these processes were facilitated by the use of a screening tool. Following a discussion of the findings, nine papers were identified for further consideration. CINAHL Plus and Ovid MEDLINE had the highest levels of sensitivity. Precision scores were generally low; CINAHL Plus received the highest score (4

percent), which was the highest overall. It was discovered that CINAHL Plus was the most effective database, with an NNR score of 26 percent, followed by PsycINFO, which had an NNR score of 36 percent, and Ovid MEDLINE, which had the lowest precision, with an NNR score of 45 percent. Evidence-based practice will only become a reality if midwives, social workers, and other healthcare professionals receive regular database searching training. Given the difficulties in conducting a thorough search for literature, regular database searching training will be required. (Mc Elhinney, Taylor, Sinclair, & Holman, 2016)

The interdisciplinary team is being put under increasing pressure to keep up with the latest research developments in their respective fields of practice. The task of locating relevant research is now heavily reliant on the quality of bibliographic databases, which are becoming increasingly scarce. Despite the use of a detailed search formula and the expertise of a specialist librarian, the results of this study revealed low precision when searching five databases on this topic. Professionals who wish to make the most of available knowledge and increase their chances of retrieving relevant literature in an efficient manner must make investments in systems that are both efficient and effective in the "information age." The development of high-quality databases requires the support of leaders in HSC organizations and professions, which is a top priority. If the high ideals of evidence-based practice are to become a reality, the development of expertise in identifying relevant research as well as education on the most robust methods of database searching must be a top priority for all involved. (Mc Elhinney, Taylor, Sinclair, & Holman, 2016)

For the importance of official documents and books, Alhajraf's study (2019) aimed to develop a system of electronic documentation using the Oracle language and distributed database model to manage the postgraduate unit and link it with the administrative units in the Public Authority for Applied Education and Training (PAAET) in the State of Kuwait for the importance of official documents and books, which are subject to many problems in traditional mechanized methods. Modern approaches to dealing with these documents and official books are available. In the end, it was determined that linking the database designed in Oracle and stored on the server with all users connected to a local network was the most effective method of achieving the desired result. Users who are authorized to enter the database can log on from any computer on the network, regardless of which computer they are using. The proposed system provides the ability to address technical issues that arise when dealing with data at work, as well as a convenient way to maintain indexing files that are used in conjunction with databases. It also facilitates the transition between windows, as well as the extraction of reports and the viewing of all electronic documents in their original order, as well as the search for information according to a specific research standard. Furthermore, because it is dependent on the process of associating the lines in the relationships, the use of horizontal segmentation based on the outgoing code and the incoming code results in the retrieval of data being relatively straightforward. (Alhajraf, 2019)

According to Ramlal et al. (2021), biologic informatics (bioinformatics) is concerned with the scientific study and analysis of biologic data through the use of computational and algorithm-based automatic techniques. The introduction of new technological methodologies has resulted in the generation of an enormous amount of biological data. The information gathered from the data is used for a variety of purposes, ranging from annotation to modeling and expressional analyses. Literature, nucleotide, and taxonomy databases, among others, are essential for storing information, screening, and conducting analyses in the biological sciences. While some databases contain information on the "big omics," others contain information that can be used in drug development. These databases are used for a variety of analyses ranging from *in silico* to *in lab*. These are readily available and are being used to research diseases, to develop precision medicine techniques, and to develop personalized

healthcare methodologies. In addition to providing a means of retrieving sequence information, databases also facilitate the submission of sequence information and disseminate analytical tools for annotation. Health-care records of patients are being stored digitally and will be used to improve the quality and safety of the public in the future. Records also aid in the treatment of patients and the provision of better care. This chapter provides a comprehensive overview of the nature, history, and roles of important databases, as well as information on electronic health records (EHRs). It will also cover the significance of and drawbacks associated with the availability of biologic databases and electronic health records (EHRs). (Ramlal, Ahmad, Kumar, Khan, & Chongtham, 2021)

Several research fields are discussed in detail in Szedmina's (2013) article on the implementation of databases. The significance of easily accessible online databases will be discussed, with a particular emphasis on the implications for postgraduate studies. The database of The New York Times, as well as the research opportunities provided by its archives, are the focus of this project. The mission of the three-member Irish-American delegation that was dispatched to the Paris Peace Conference in the spring of 1919 was the subject of the investigation. Journalists in the United States and Ireland-Americans were closely following the delegation's every move. The New York Times' free electronic online archives are used to keep track of the delegation's progress, according to the paper. Articles published in The New York Times and made freely available to the public on the Internet serve as a major source of inspiration for this piece of work. (Szedmina, 2013)

According to this article, electronic databases play a critical role in various areas of research, including Irish-American history, and in this case, they are particularly important. It would be much more difficult to conduct accurate historical research without access to a readily available online database. The publication dates of the articles listed in this work serve as evidence that the New York Times archives are a valuable resource in the author's hands when attempting to map the work of the Irish-American delegation in the United States. The visit to Ireland by the Irish-American delegation, as well as the report that was subsequently submitted, became a highly contentious issue for both the British and the American governments. However, while the delegates believed that their visit would increase the chances of getting an audience with Irish political figures, it is possible that their visit will have completely ruined those chances. President Wilson did not personally notify the delegation, but instead directed Secretary of State Lansing to send them a letter informing them that all further attempts to bring the Irish representatives before the Grand Committee had been abandoned. (Szedmina, 2013)

Lansing's letter caused widespread consternation throughout Europe, not just in Paris. In an article published on May 29, 1919, in The New York Times, Justice Daniel F. Cohalan and Ex-Justice John W. Goff spoke on behalf of the Friends of Irish Freedom and expressed their outrage at the treatment of the Irish people. Cohalan stated that he did not understand why Lansing and the American Peace Commission were taken aback by the speeches delivered by Walsh, Dunne, and Ryan during their visit to Ireland, which were in support of Irish national independence. He made an ironic remark, stating, "I wonder whether Mr. Lansing thought these gentlemen went to Ireland to view the scenery or to praise the rule of Dublin Castle?" he wondered. Although the struggle for Ireland's recognition was far from over, as Dunne put it: "The Irish race both in Ireland and abroad intends to continue the fight for an Irish republic until the flag of that republic floats over every inch of Irish soil." (Szedmina, 2013)

On the other hand, Mansour and Ibrahim (2017) noted that electronic databases provide libraries with tremendous opportunities for providing useful information services to users and for gaining access to up-to-date electronic information resources that are available in digital formats. The primary goal of the study is to determine whether or not the electronic databases

made available by the King Abdul Aziz University library are actually being used by the target population for which they were purchased in the first place. It is also important to understand how students find the electronic databases that are currently available, as well as their satisfaction with electronic databases and library services. One more issue that was investigated was the perception of end-users, which may provide useful information to the library administration as well as an overall picture of students' attitudes, perception of electronic databases in Saudi university libraries. The study's participants are all students from the faculties of science and engineering, as well as students from the library department. The survey research method was used to conduct the research, in addition to the distribution of questionnaires, and students were asked to express their opinions and describe their problems. The data was analyzed using the descriptive statistical method. According to the findings of this study, the vast majority of respondents are classified as intermediate users of electronic databases. A large number of postgraduate students at King Abdul Aziz University are pleased with the electronic databases that the university provides. In addition to these issues, the lack of properly trained staff, limited language proficiency, and the lack of a full-text option are all major factors that discourage users from accessing the electronic databases at King Abdul Aziz University, according to the university. Users' needs for electronic information should be better understood by the library, so it should subscribe to electronic journals that provide full-text options and conduct user study programs to better understand their requirements for electronic information in general. (Mansour & Ibrahim, 2017)

According to Singh et al (2020), in an information and communication technology (ICT) environment, electronic journal databases play a significant role in academic research, owing primarily to their superiority over print resources. Libraries spend a significant amount of money on online databases as part of a competitive bid to improve teaching, learning, and research in higher education. The purpose of this study was to investigate the use of electronic journal databases by research scholars in the field of life sciences at Kurukshetra University. According to the researchers, the purpose of this study is to determine the significance of online databases in their work. The information from the respondents was gathered through the use of a questionnaire survey. According to the findings of the study, 96 percent of those who took part in it were aware of the existence of e-databases in their respective fields. Despite the fact that research scholars recognize the importance of electronic databases in research, they face a number of challenges that prevent them from making full use of electronic resources. It has been determined that electronic journal databases have become a significant source of information for researchers. Springer link, Science Direct, Nature, and PubMed are some of the well-known databases that the respondents primarily rely on for research. (Singh, Garg, & Sharma, 2020)

According to the findings of the study, electronic journal databases serve as a valuable source of information for researchers as well as other professionals in the field. Due to the ease with which e-databases can be accessed, researchers turned their attention to electronic journals rather than print journals. According to the findings of the study, research scholars in the Life Science discipline derive significant benefits from using electronic journal databases for their research projects and publications. Research scholars are well aware of electronic databases; the vast majority of respondents frequently use e-databases specific to their field of study, and they are heavily reliant on electronic journal databases. The databases Science Direct and Springer are the most popular among scientists and researchers. In fact, more than 62 percent of research scholars believe that electronic databases have a significant impact on their work. However, a large number of respondents expressed concern about slow internet connectivity as well as a lack of desired information. The cloud era is not without its problems, and while technology is changing at a rapid pace, it has been observed in numerous studies that the problems experienced by respondents are not diminishing. The authorities in

the higher education system must examine technological issues in order to provide their users with seamless access to e-resources, allowing them to make the most of the resources that have been subscribed to by the institution. (Singh, Garg, & Sharma, 2020)

The research conducted by Ismail et al (2020) was designed to achieve three specific objectives: 1) to investigate the usage and acceptability of electronic databases and electronic journals among research scholars in selected universities in Pakistan, 2) to identify the preferred information resource being used by researchers, and 3) to identify the barriers that researchers encounter when consulting these resources for research endeavors in the field of information technology. The study used a sample of 1031 respondents from four major disciplines drawn from a total population of 4282 participants. A closed-ended questionnaire was used in the data collection process, and the results were analyzed. According to the study's key findings, the vast majority of respondents used e-databases and e-Journals on a weekly basis (on average, "2-3 times") and strongly agreed that these resources were "important" in their research activities. Furthermore, the respondents generally preferred to use electronic databases, e-books, and e-journals (all of which were open access) over printed collections in their research. Despite this, restrictions on e-resources, a slow internet connection, students' awareness of and training in the use of e-resources were the most significant obstacles to effective use of e-resources. (Ismail, Khan, & Ahmed, 2020)

A large majority of scientists and academicians were found to be adapting electronic resources to meet their specific needs, according to previous research studies. The findings of this study appear to confirm this trend among researchers in academic institutes in Khyber Pakhtunkhwa, Pakistan, according to the findings of the study. It was also encouraging to see how well-informed the researchers were about the HEC electronic databases and electronic journals. Over 54 percent of the researchers were found to be aware of the use of these resources, according to the findings. The use of these resources, on the other hand, was poorly understood by more than 43% of those who responded to the survey questions. It is clear from the lack of awareness among those who responded that they were not familiar with these resources. According to the findings of this study, it can be concluded that they accept and support the conversion from traditional sources of information to electronic resources for the purpose of conducting research. In addition, the findings regarding format preference were found to be highly encouraging, as they demonstrated a trend among researchers toward the adaptation of e-databases and e-journals. However, they encountered some difficulties in the utilization of these resources, which had a negative impact on respondents' research progress and reduced research productivity. (Ismail, Khan, & Ahmed, 2020)

The results of this survey will allow competent authorities, university librarians, and information and library science professionals to further investigate the tendency of research scholars to use e-resources for learning and research purposes in greater depth. Studies on the use of e-resources in Pakistani academic institutions have been few and far between, particularly in the context of private institutions (e.g. e-databases and e-journals). Therefore, comprehensive user studies must be conducted in order to provide a comprehensive picture of how e-resources and services are used in an academic setting on a large scale. Future research studies should be conducted on an ongoing basis in order to keep up with the rapidly changing formats of information resources and services in this digital age, as well as the rapid changes in technology. (Ismail, Khan, & Ahmed, 2020)

According to Li and Slee (2014), electronic health record (EHR) systems have the potential to improve service efficiency and quality in the health care sector, and as a result, have been widely considered for implementation. Despite this, the introduction of such systems has sparked widespread concern about the privacy of patient information. This study provides new insights into how patients' decisions to allow the digitization of their personal health information are influenced by their concerns about their privacy. As part of the

nonmandatory EHR adoption in the Netherlands, we conducted an online experiment and collected data from 164 patients who participated in the experiment. We discovered that the negative impact of information privacy concerns on patients' willingness to opt in is influenced by the degree of interoperability between EHR systems as well as the ability of patients to control the disclosure of their personal information. The findings indicate that, when using a networked EHR system, the negative impact of privacy concerns on opt-in behavior was reinforced more so than when using a stand-alone system, according to the researchers. The findings also suggest that providing patients with greater control over their information can alleviate their privacy concerns when they make opt-in decisions about their health-related information. The implications of these findings are discussed in detail. (Li & Slee, 2014).

## METHODOLOGY

### *Research design*

This study will be employing the descriptive method of investigation. According to McCombes (2019), Descriptive design is meant to characterize a group, circumstance or phenomena adequately and systematically. It can answer questions like what, where, where, where, and how, but not why. Experimental research is needed to establish cause and effect. A concise study design may analyze one or more variables using a wide variety of quantitative and qualitative approaches. The study does not monitor or modify any of the factors, as applied to experimental research, but only monitors and tests them.

Furthermore, quantitative approach will also be used in the study. Quantitative methods emphasize objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques. Quantitative research focuses on gathering numerical data and generalizing it across groups of people or to explain a particular phenomenon (Babbie, 2010).

This approach is suited for the study because it will be utilizing quantitative strategies for data collection such as test questionnaire and documentary analysis emphasizing the need to meet the objectives of this study.

### *Locale of the study and respondents*

The study was conducted in various locations across the Philippines to capture a comprehensive view of the impact of Information Technology (IT) on economic development. The respondents were selected using a stratified sampling technique to ensure a representative sample from different regions and sectors within the country. This approach provided a diverse dataset encompassing urban and rural areas, various economic sectors, and a range of stakeholders including government officials, business owners, IT professionals, and general citizens. The diverse backgrounds and experiences of the respondents contributed to a well-rounded understanding of the IT landscape and its effects on economic development in the Philippines.

### *Research instruments*

The main instrument to be used in this study is a survey questionnaire. Survey questionnaire is individually or in a group, professionally conducted or self-administered, it is normally contained a number of items that reflect the objectives of the research. A questionnaire may examine about demographics in addition to using reliable and accurate research tools (Dillman D. A., 2014). Authors should describe the survey's contents so that readers may

comprehend and assess the probability of validity and reliability flaws (such as topics or instruments that do not measure what they are supposed to measure) (e.g., items or instruments that do not measure a construct consistently). (Buerhaus P. I., 2012). Therefore, it is appropriately designed to evaluate the significance of the variables given in this study.

#### *Data analyses procedure*

The data analysis for this study involved a combination of descriptive and content analysis methods. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize the survey data. This quantitative analysis provided a clear overview of the respondents' perceptions, attitudes, and experiences regarding IT and economic development.

For the document review, content coding and theme categorization techniques were employed to systematically organize and analyze textual data from government reports, policy documents, and academic literature. This method helped identify recurring patterns, policy trends, and statistical data relevant to the study's objectives.

Additionally, the data collected from surveys were analyzed using the Statistical Package for the Social Sciences (SPSS) software. The reliability of the survey instruments was tested using the Cronbach coefficient to ensure internal validity. The use of Likert-scale questions allowed for a detailed quantitative assessment of participants' views, facilitating the identification of trends and patterns in the data. By employing these robust data analysis procedures, the study was able to generate meaningful insights and contribute significantly to the understanding of IT's role in economic development in the Philippines.

## FINDINGS AND DISCUSSION

### *Satisfaction of residents on the digitalization of processes in local government*

The analysis of the research findings pertaining to the degree of resident satisfaction regarding the implementation of digital procedures within our municipal government, as indicated by a calculated weighted mean of 3.45 and characterized as "Highly Satisfied," offers significant implications for the efficacy of our digitalization endeavors.

The computed weighted mean of 3.45, which indicates a level of "Highly Satisfied," represents an unambiguously favorable outcome. This statement highlights the observation that a substantial majority of our populace not only expresses satisfaction but also exhibits a high level of contentment with the digital services and processes implemented by our municipal administration. This discovery serves as evidence of the efficacy of our endeavors to adopt technology for the betterment of our society. There are other significant aspects that contribute to the elevated level of satisfaction observed in this context. Firstly, it posits that the digital interfaces and platforms that have been created exhibit a high degree of user-friendliness and intuitiveness. The ease with which residents have been able to access digital channels is likely to have positively impacted their entire experience. This aspect holds significant importance as it guarantees the inclusivity of our services, accommodating users with varying levels of technological expertise.

The high level of satisfaction indicated by residents further underscores the convenience provided by these digital services. The convenience and time-saving aspect of digital operations, such as paying bills, getting information, and connecting with the local government, are highly valued by people. Moreover, it can be observed that the security and privacy concerns pertaining to residents' data have been effectively mitigated, as evidenced by their considerable degree of contentment. Trust plays a vital role in digital interactions,

and the findings indicate that individuals exhibit a sense of assurance regarding the manner in which their personal information is managed within our digital networks.

Although this discovery is unquestionably favorable, it is crucial to acknowledge that there may yet exist prospects for enhancement. It is imperative that we persist in aggressively soliciting feedback from residents in order to identify potential areas for improvement. Furthermore, it is imperative to sustain the progress and guarantee that our endeavors in digitalization persist in being current, safeguarded, and congruent with the progressing requirements and anticipations of our constituency.

In conclusion, our survey has yielded a computed weighted mean of 3.45, accompanied by a vocal descriptor of "Highly Satisfied." This outcome represents a noteworthy milestone in our ongoing digitization efforts. This statement underscores our achievements in delivering digital services that are user-friendly, easily accessible, and characterized by robust security measures, which have garnered favorable reception among our inhabitants. Nevertheless, it is imperative that this serves as a constant reminder of our enduring dedication to upholding high standards and perpetually enhancing our provision of services to the community via digital means.

## CONCLUSIONS AND RECOMMENDATION

In summary, the results of our research pertaining to the degree of resident satisfaction with the implementation of digital operations inside our municipal government demonstrate a notably favorable and promising outcome. Based on the calculated weighted mean of 3.45 and the classification of "Highly Satisfied," it is apparent that the community members express their recognition for the endeavors undertaken to enhance and streamline local government services via digital platforms. The high degree of satisfaction observed in this context highlights the effectiveness of our interfaces that prioritize user-friendliness, the ease of access and convenience provided by our digital services, and the confidence residents have in the security measures safeguarding their personal information.

Nevertheless, as we commemorate this noteworthy accomplishment, it is imperative to perceive it as a milestone rather than a final objective. The rating of "Highly Satisfied" should serve as a motivating factor for us to uphold our dedication to innovation and ongoing enhancement. In order to maintain this level of satisfaction, it is imperative that we maintain a high level of responsiveness to feedback from residents, identify areas where improvements can be made, and ensure that our digitalization efforts align with the ever-changing requirements and expectations of our community. As we proceed, let us utilize this affirmation of our advancement as a stimulus for additional enhancements in delivering effective, secure, and user-centric digital government services that yield benefits to all constituents within our local community.

Based on the study's findings, here are four key recommendations for the local government. Firstly, despite the high satisfaction rating, the local government should not become complacent. Establishing a framework that encourages ongoing improvement and innovation in digital services is essential. Regularly evaluating and updating digital platforms will help keep them user-friendly, efficient, and adaptable to changing needs. Secondly, actively seeking input from residents and involving them in decisions about digital projects is crucial. Creating systems that allow residents to share their feedback and suggestions will ensure their needs and expectations are considered in future developments. Thirdly, investing in strong data protection measures is vital. Conducting regular audits and updating security policies will protect residents' personal information and maintain their trust. Lastly, identifying and addressing any gaps in digital access among different demographic groups and regions is important. Implementing outreach programs and digital literacy initiatives will

ensure everyone can effectively use digital government services and benefit from them. By following these recommendations, the local government can continue to enhance its digital services and ensure they are inclusive and secure for all residents.

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